

IN THE CLAIMS

1. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:
 - applying a potential of less than 3.0 Volts across a floating gate oxide, wherein the floating gate oxide is less than 50 Angstroms, in order to add or remove a charge from a floating gate; and
 - reading the p-channel memory cell by applying a potential to a control gate of the p-channel memory cell of less than 1.0 Volt.
2. (Original) The method of claim 1, wherein applying a potential of less than 3.0 Volts across a floating gate oxide, wherein the floating gate oxide is less than 50 Angstroms, in order to add or remove a charge from a floating gate includes applying the potential for less than 20 microseconds.
3. (Original) The method of claim 1, wherein the method further includes refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.
4. (Original) The method of claim 3, wherein refreshing the p-channel memory cell to renew a charge on the floating gate at second 1.0 intervals includes renewing a charge of approximately 100 electrons on the floating gate.
5. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:
 - applying a potential of approximately 2.3 Volts across a floating gate oxide, wherein the floating gate oxide is approximately 23 Angstroms, in order to add or remove a charge from a floating gate; and
 - reading the p-channel memory cell by applying a potential to a control gate of the p-channel memory cell of less than 1.0 Volt.

AMENDMENT

Serial Number: 10/043065

Filing Date: January 9, 2002

Title: P-CHANNEL DYNAMIC FLASH MEMORY CELLS WITH ULTRATHIN TUNNEL OXIDES

Page 3
Dkt: 303.684US3

6. (Original) The method of claim 5, wherein applying a potential of approximately 2.3 Volts across a floating gate oxide, wherein the floating gate oxide is approximately 23 Angstroms, in order to add or remove a charge from a floating gate includes applying the potential for less than 200 nanoseconds.
7. (Original) The method of claim 5, wherein the method further includes refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.
8. (Original) The method of claim 5, wherein refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals includes renewing a charge of approximately 100 electrons on the floating gate.
9. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:
applying a potential of approximately 3.0 Volts across a floating gate oxide, wherein the floating gate oxide is approximately 30 Angstroms, in order to add or remove a charge from a floating gate.
10. (Original) The method of claim 9, wherein applying a potential of approximately 3.0 Volts across a floating gate oxide, wherein the floating gate oxide is approximately 30 Angstroms, in order to add or remove a charge from a floating gate includes applying the potential for about 20 microseconds.
11. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:
pulsing to a negative potential a control gate to drive a floating gate to a negative potential, wherein the floating gate controls a potential across a floating gate oxide, wherein the floating gate oxide is less than 50 Angstroms, in order to remove a charge from the floating gate.

12. (Original) The method of claim 11, wherein pulsing to a negative potential a control gate to drive a floating gate to a negative potential comprises pulsing the control gate to a negative potential to avoid charge buildup in the floating gate oxide.

13. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:

applying a potential of less than 3.0 Volts across a floating gate oxide, wherein the floating gate oxide is less than 50 Angstroms, in order to add or remove a charge from a floating gate.

14. (Original) The method of claim 13, further including refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

15. (Original) The method of claim 14, wherein refreshing the p-channel memory cell to renew a charge on the floating gate at second 1.0 intervals includes renewing a charge of approximately 100 electrons on the floating gate.

16. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:

applying a potential of approximately 2.3 Volts across a floating gate oxide, wherein the floating gate oxide is approximately 23 Angstroms, in order to add or remove a charge from a floating gate.

17. (Original) The method of claim 16, further including refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

18. (Original) The method of claim 17, wherein refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals includes renewing a charge of approximately 100 electrons on the floating gate.

AMENDMENT

Serial Number: 10/043065

Filing Date: January 9, 2002

Title: P-CHANNEL DYNAMIC FLASH MEMORY CELLS WITH ULTRATHIN TUNNEL OXIDES

Page 5
Dkt: 303.684US3

19. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:

applying a potential of less than 3.0 Volts across a floating gate oxide for less than 20 microseconds, wherein the floating gate oxide is less than 50 Angstroms, in order to add or remove a charge from a floating gate.

20. (Original) The method of claim 19, further including refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

21. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:

applying a potential of approximately 2.3 Volts across a floating gate oxide for less than 200 nanoseconds, wherein the floating gate oxide is approximately 23 Angstroms, in order to add or remove a charge from a floating gate.

22. (Original) The method of claim 21, further including refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

23. (Original) A method of operating a memory device having a plurality of enhancement mode p-channel memory cells comprising:

applying a potential of less than 3.0 Volts across a floating gate oxide of at least one enhancement mode p-channel memory cell of the plurality of enhancement mode p-channel memory cells, wherein the floating gate oxide is less than 50 Angstroms, in order to add or remove a charge from a floating gate; and

reading the enhancement mode p-channel memory cell by applying a potential to a control gate of the p-channel memory cell of less than 1.0 Volt.

24. (Original) The method of claim 23, wherein applying a potential of less than 3.0 Volts across a floating gate oxide, wherein the floating gate oxide is less than 50 Angstroms, in order

to add or remove a charge from a floating gate includes applying the potential for less than 20 microseconds.

25. (Original) The method of claim 23, wherein the method further includes refreshing at least one enhancement mode p-channel memory cell of the plurality of enhancement mode p-channel memory cells to renew a charge on the floating gate at 1.0 second intervals.

26. (Original) A method of operating a memory device having a plurality of enhancement mode p-channel memory cells comprising:

applying a potential of approximately 2.3 Volts across a floating gate oxide of at least one enhancement mode p-channel memory cell of the plurality of enhancement mode p-channel memory cells, wherein the floating gate oxide is approximately 23 Angstroms, in order to add or remove a charge from a floating gate; and

reading the enhancement mode p-channel memory cell by applying a potential to a control gate of the p-channel memory cell of less than 1.0 Volt.

27. (Original) The method of claim 26, wherein applying a potential of approximately 2.3 Volts across a floating gate oxide, wherein the floating gate oxide is approximately 23 Angstroms, in order to add or remove a charge from a floating gate includes applying the potential for less than 200 nanoseconds.

28. (Original) The method of claim 26, wherein the method further includes refreshing at least one enhancement mode p-channel memory cell of the plurality of enhancement mode p-channel memory cells to renew a charge on the floating gate at 1.0 second intervals.

29. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:

reading the enhancement mode p-channel memory cell by applying a potential of less than 1.0 Volt to a control gate of the enhancement mode p-channel memory cell having a

AMENDMENT

Serial Number: 10/043065

Filing Date: January 9, 2002

Title: P-CHANNEL DYNAMIC FLASH MEMORY CELLS WITH ULTRATHIN TUNNEL OXIDES

Page 7

Dkt: 303.684US3

dielectric layer between the control gate and a floating gate, the floating gate located on a floating oxide of less than 50 Angstroms.

30. (Original) The method of claim 29, further including refreshing the enhancement mode p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

31. (Original) A method for operating an enhancement mode p-channel memory cell, comprising:

reading the enhancement mode p-channel memory cell by applying a potential of less than 1.0 Volt to a control gate of the enhancement mode p-channel memory cell having a dielectric layer between the control gate and a floating gate, the floating gate located on a floating oxide of approximately 23 Angstroms.

32. (Original) The method of claim 31, further including refreshing the enhancement mode p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

33. (New) A method for operating a memory, comprising:

applying a potential of less than 3.0 Volts across a floating gate oxide of an enhancement mode p-channel memory cell to add or remove a charge from a floating gate disposed on the floating gate oxide, wherein the floating gate oxide is less than 40 Angstroms; and

reading the p-channel memory cell by applying a potential to a control gate of the p-channel memory cell of less than 1.0 Volt.

34. (New) The method of claim 33, wherein applying a potential of less than 3.0 Volts across a floating gate oxide to add or remove a charge from a floating gate includes applying the potential for less than 20 microseconds.

35. (New) The method of claim 33, wherein the method further includes refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.

AMENDMENT

Serial Number: 10/043065

Filing Date: January 9, 2002

Title: P-CHANNEL DYNAMIC FLASH MEMORY CELLS WITH ULTRATHIN TUNNEL OXIDES

Page 8
Dkt: 303.684US3

36. (New) The method of claim 35, wherein refreshing the p-channel memory cell to renew a charge on the floating gate at second 1.0 intervals includes renewing a charge of approximately 100 electrons on the floating gate.
37. (New) A method for operating a memory, comprising:
pulsing to a negative potential a control gate of an enhancement mode p-channel memory cell to drive a floating gate disposed on a floating gate oxide to a negative potential to remove a charge from the floating gate, wherein the floating gate oxide is less than 40 Angstroms.
38. (New) The method of claim 37, wherein pulsing to a negative potential a control gate to drive a floating gate to a negative potential comprises pulsing the control gate to a negative potential to avoid charge buildup in the floating gate oxide.
39. (New) A method for operating a memory, comprising:
applying a potential of less than 3.0 Volts across a floating gate oxide of an enhancement mode p-channel memory cell to add or remove a charge from a floating gate disposed on the floating gate oxide, wherein the floating gate oxide is less than 40 Angstroms.
40. (New) The method of claim 39, further including refreshing the p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.
41. (New) The method of claim 40, wherein refreshing the p-channel memory cell to renew a charge on the floating gate at second 1.0 intervals includes renewing a charge of approximately 100 electrons on the floating gate.
42. (New) A method for operating a memory, comprising:
reading an enhancement mode p-channel memory cell by applying a potential of less than 1.0 Volt to a control gate of the enhancement mode p-channel memory cell having a dielectric layer between the control gate and a floating gate, the floating gate located on a floating gate oxide of less than 40 Angstroms.

AMENDMENT

Serial Number: 10/043065

Filing Date: January 9, 2002

Title: P-CHANNEL DYNAMIC FLASH MEMORY CELLS WITH ULTRATHIN TUNNEL OXIDES

Page 9

Dkt: 303.684US3

43. (New) The method of claim 42, further including refreshing the enhancement mode p-channel memory cell to renew a charge on the floating gate at 1.0 second intervals.